

# Assess, Enhance and Predict Impact

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In the context of the discovery process

Technology In

Retrospect

And

Critical

Events in

Science

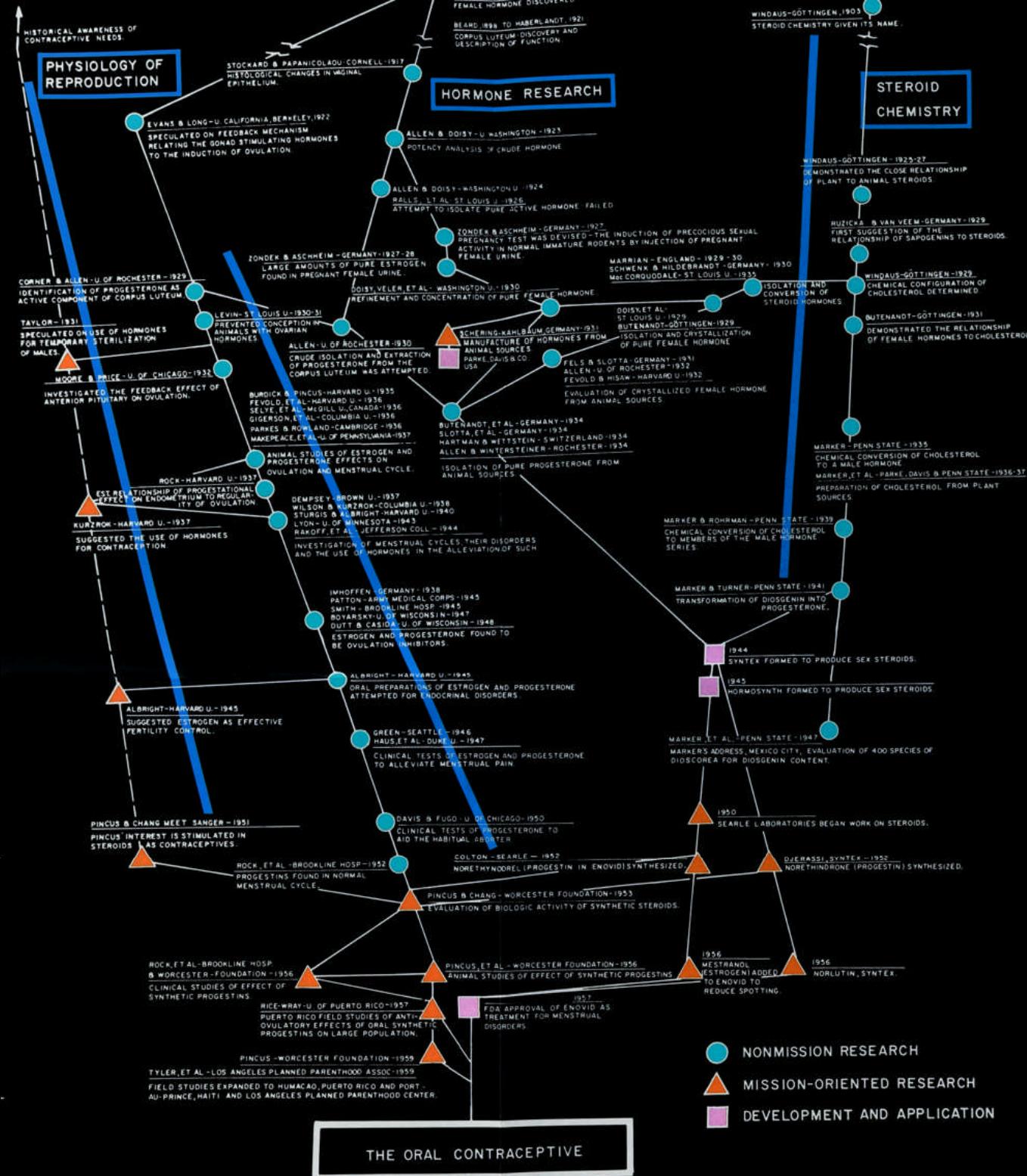
T R A C E S

Prepared for The National Science Found

The Illinois Institute of Technology Research Institute

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- Non-mission research
- ▲ Mission-oriented research
- Development and application



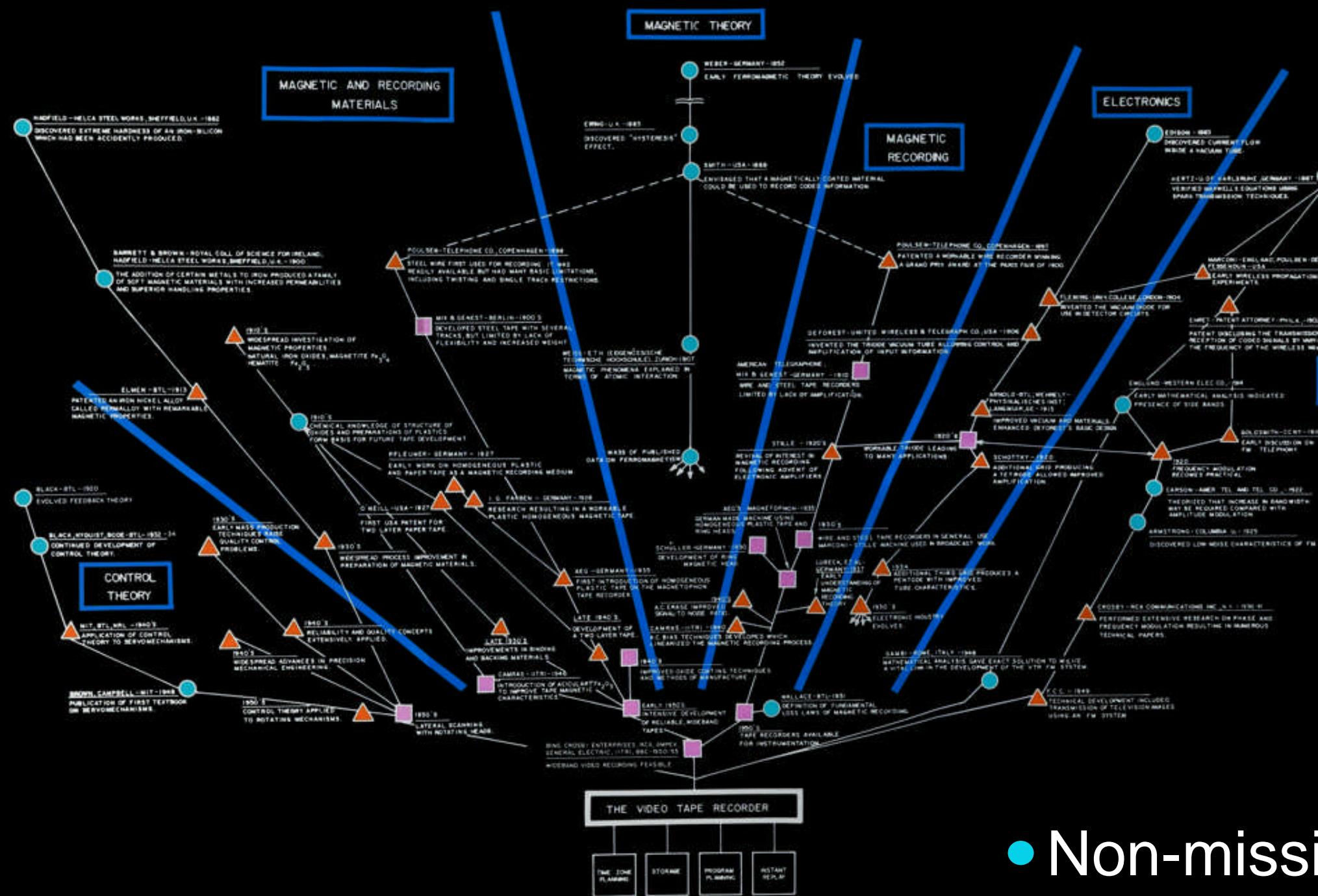
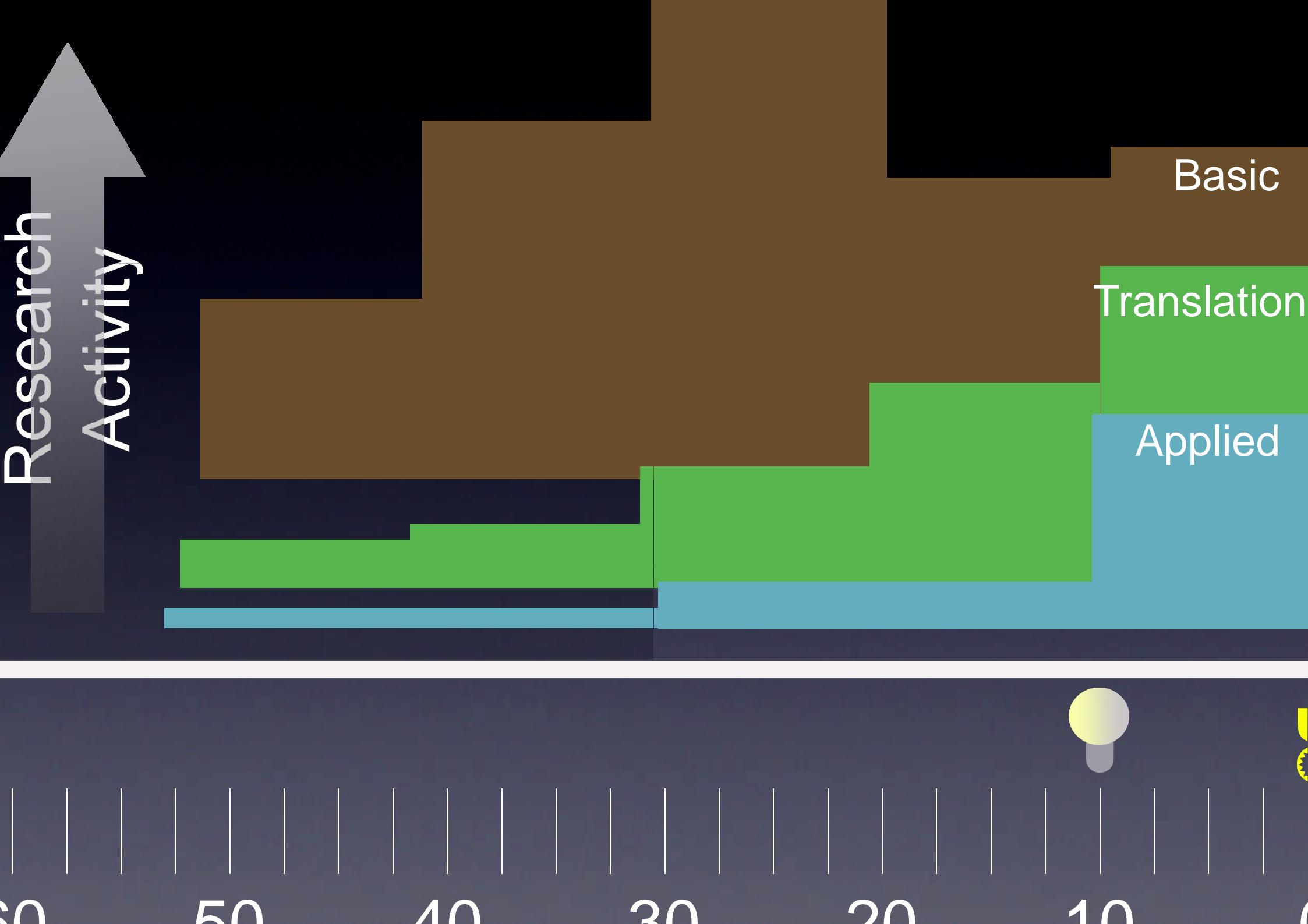
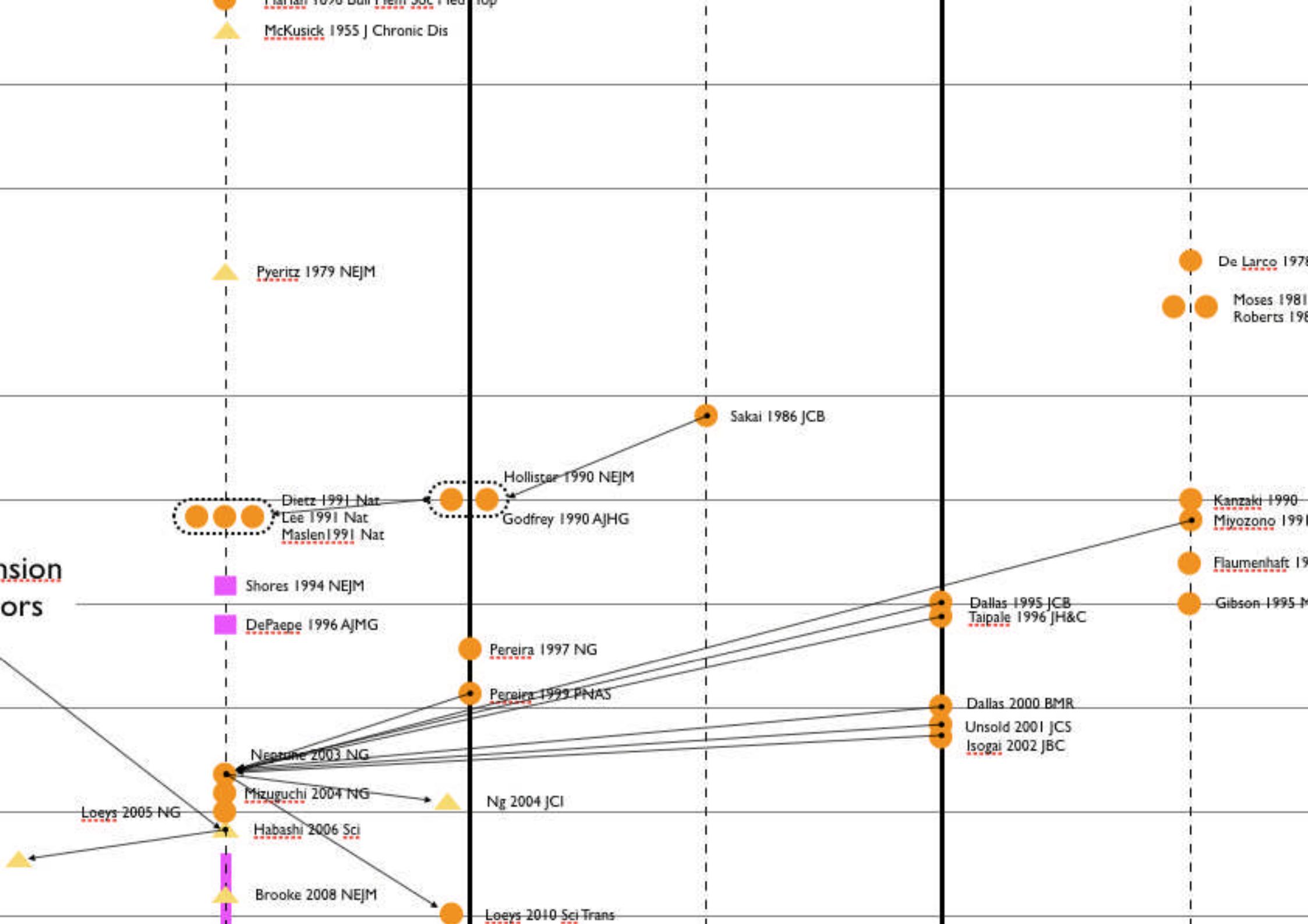
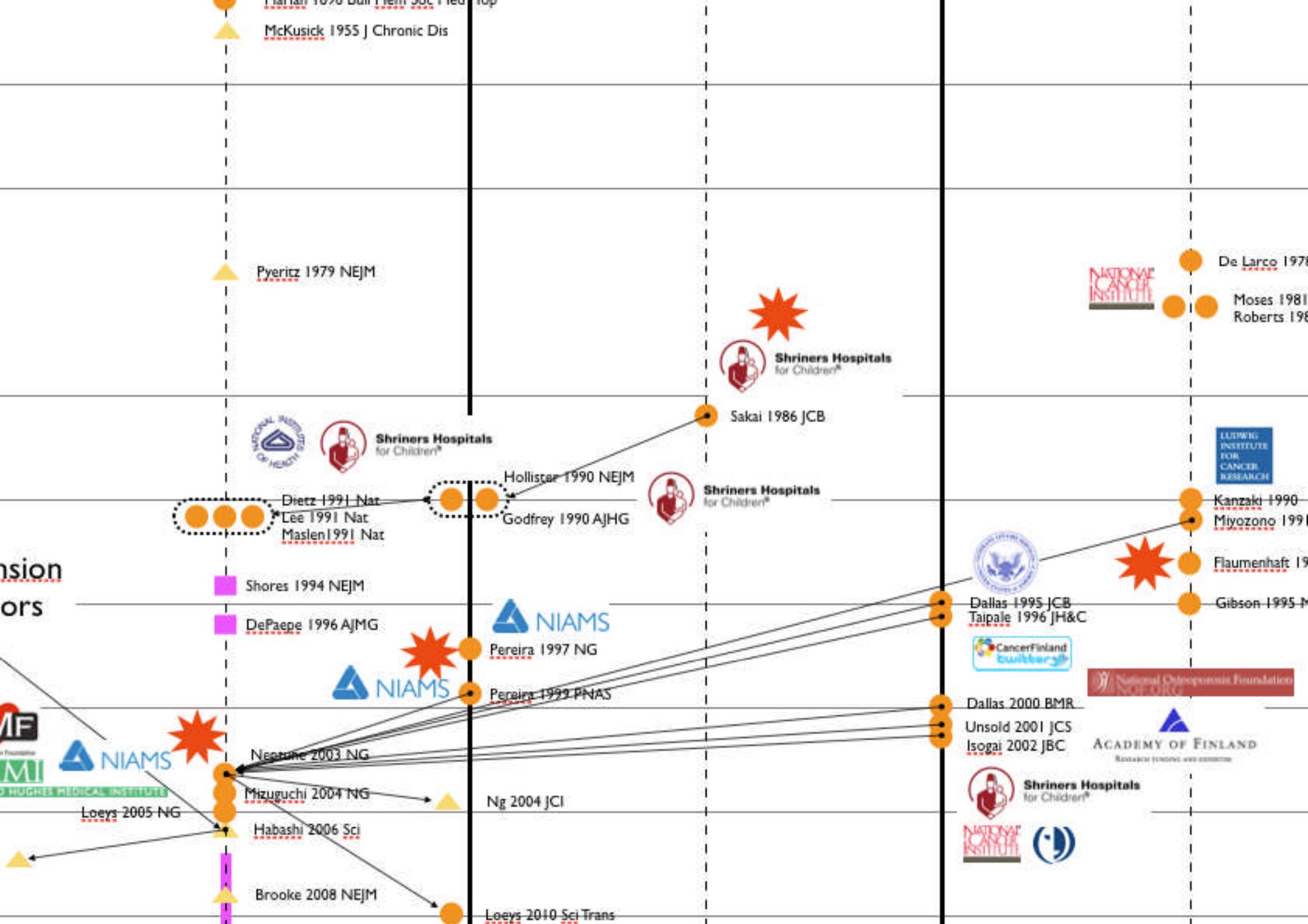
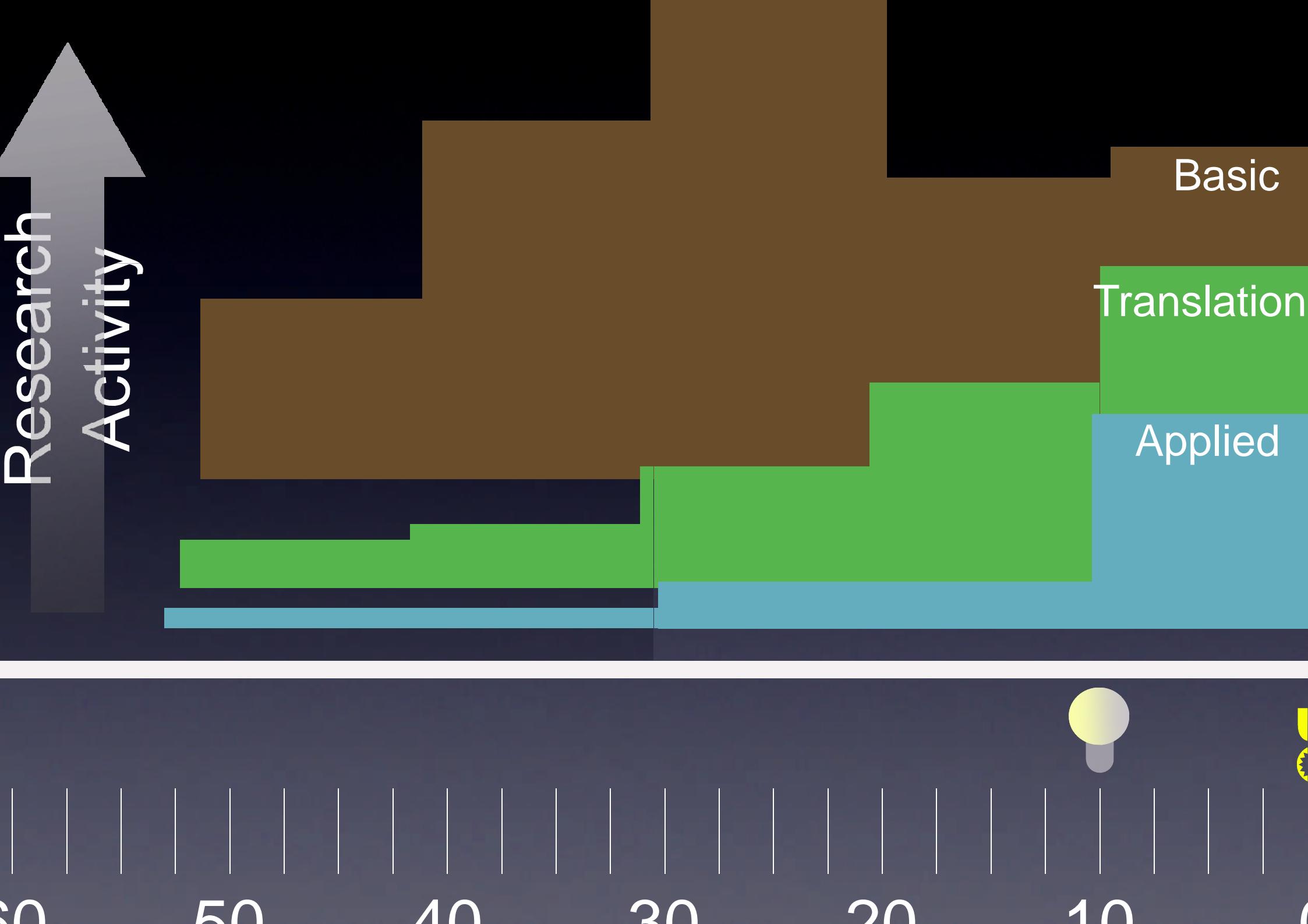


FIG. 7. THE VIDEO TAPE RECORDER



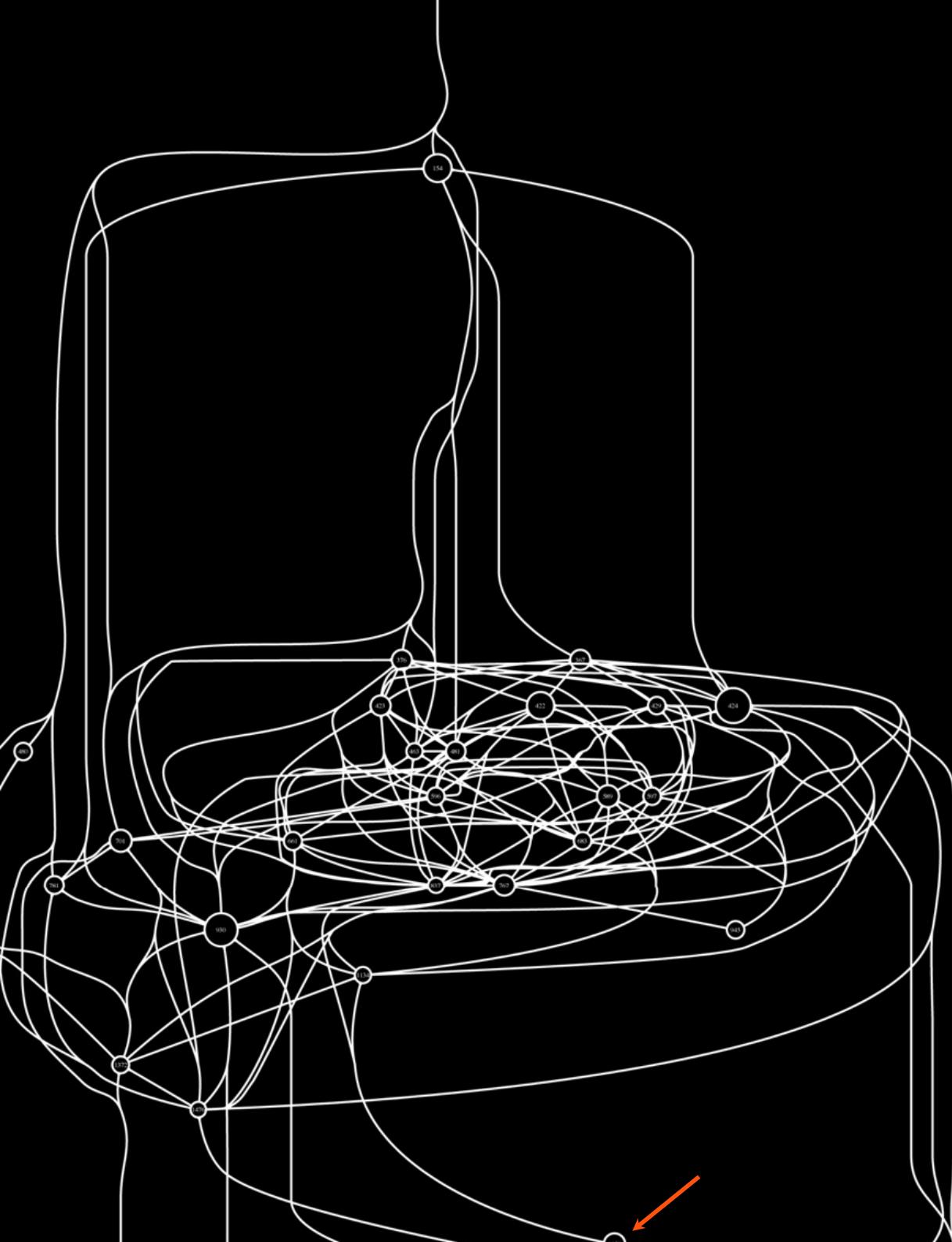




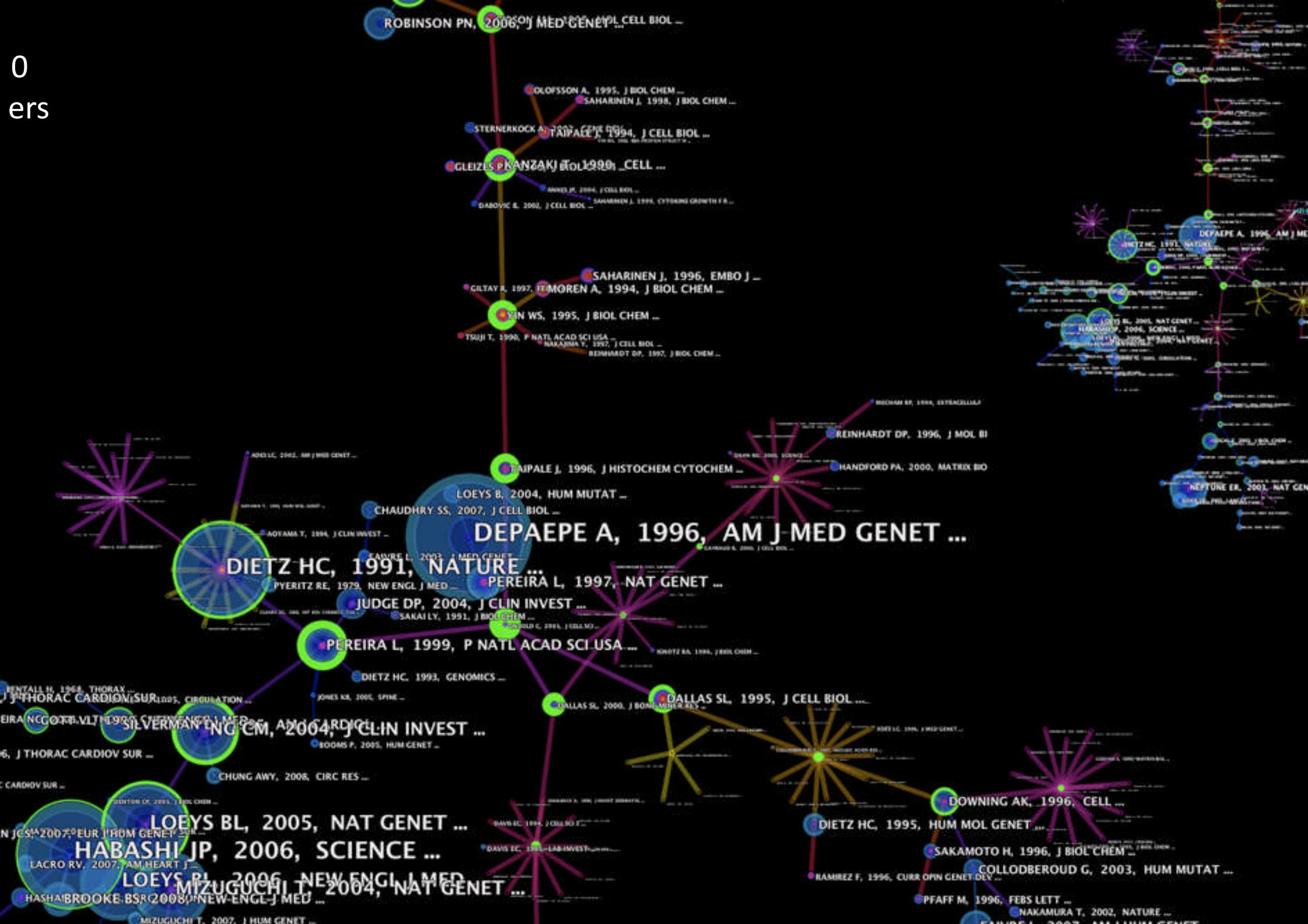


# Four Case-Studies

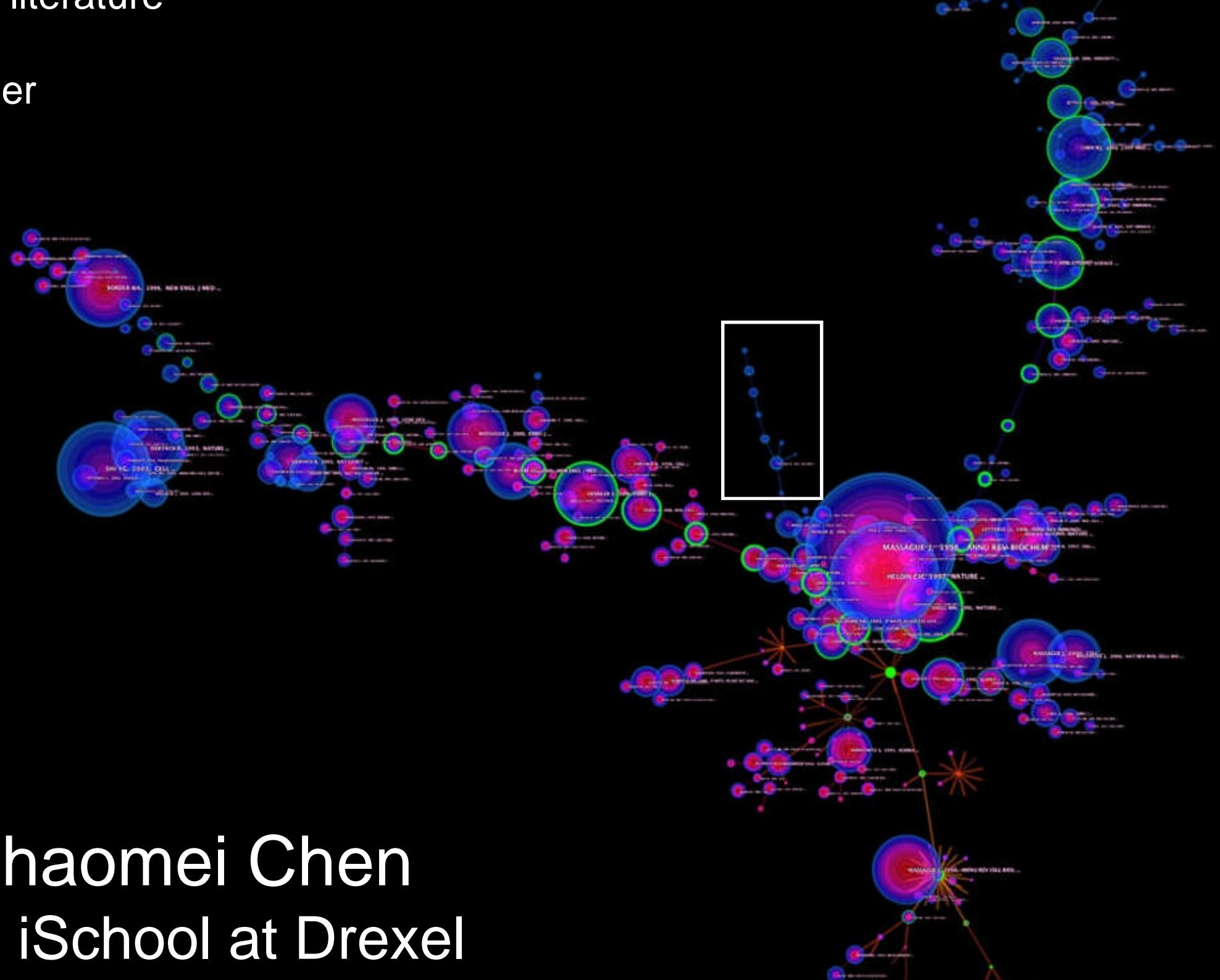
CML PTK inhibitor	Anafi 1993 Blood/Druker 1996 Nat Med Druker 2001 NEJM	5 ye
heumatoid Arthritis anti-TNF-alpha	Williams 1992 Lipsky 2000 NIJM	8 ye
Cancer anti-angiogenesis	Folkman 1971/Kim 1993 Yang 2003 NEJM	10 ye
Hypertension Anti-ARBs	Grvras 1974 NEJM Timmermans 1995 J Hum	2 ye



*HistCite goes back to an idea that I had 40 years ago in the field of visualizing and mapping relationships to citation data.*



literature  
010  
paper



Chaomei Chen  
The iSchool at Drexel

# Predicting Impact

Cases	Coauthors	MCR	Cluster Linkage	Centrality Divergence	References	Le
Mass Extinctions	1.160	0.713	3.975	9.837	1.004	
treSpace Expanded	1.084	1.013	3.589	3.453	1.010	
ism (3-year slices)	1.808	0.578	3.306	48.061	1.018	
ism (2-year slices)	1.853	0.586	3.180	62.637	1.018	
Complex Networks	1.293	1.080	3.103	0.391	1.013	
Mean	1.440	0.794	3.431	24.876	1.013	

# Thanks

Chaomei Chen

Henry Small

Dick Klavans

Eugene Garfield

Soren Paris